Before the
Federal Communications Commission
Washington, DC 20554

In re:	)	
	)	
Delete, Delete, Delete	)	GN Docket No. 25-133
	)	
	)	
	)	

COMMENTS OF
OF CASTANET 5G LLC

April 11, 2025

Brooks E. Harlow
Technology & Communications Law, PLLC
12703 Fox Woods Drive
Herndon, VA 20171
Bharlow@techcomm.law
+1 206-650-8206

Attorneys for Castanet 5G LLC

COMMENTS OF CASTANET 5G LLC

Castanet 5G LLC ("Castanet" or the "Company") hereby comments in response to the Public Notice issued by the Federal Communication Commission ("FCC" or "Commission") in the above Docket on March 12, 2025. In general, Castanet applauds the Commission's initiative to reduce, clarify, and streamline its regulations to the benefit of industry and consumers alike. Castanet's comments at this stage will be narrow but may assist the Commission better achieving these goals.

I. Background re Castanet.

Castanet 5G is organizing a nationwide network of 5G Broadcast Internet one-to-all ("multicast") enhancement to the one-to-one ("unicast") existing internet using LPTV (Low Power Television) stations. Castanet is implementing ATSC 3.0 (NextGen TV) as the foundation of the Company's Neutral Host content delivery service augmented by the 3GPP standard of 5G Broadcast. The FCC's Broadcast Internet rules already have a measure of regulatory flexibility in that they allow ATSC 3.0 to carry other wave forms, such as 5G. The Castanet approach shares an ATSC 3.0 channel with a 5G Broadcast signal integrated within the time and frequency domains. By incorporating 5G into its Broadcast Internet TV signals Castanet will be able to access the growing universe of 5G-enabled smartphones, connected cars, and FWA (fixed Wireless Access) devices.

II. Castanet's Planned Broadcast Internet Services Under Existing Regulations.

Castanet's business and service models are fully compatible with existing FCC rules. In particular, on December 10, 2020, the Commission issued the Broadcast Internet order and regulations which clarified the conditions under which a TV broadcaster may transmit other

services, such as 5G Broadcast, provided they offer at least one free over the air ("OTA") ATSC 3.0 standard definition TV program.[1] With that condition met, under existing Commission's regulations the remaining capacity in the channel can be used for ancillary services which may include a 5G Broadcast transmission.[2]

The Commission's regulations and Broadcast Internet Order laid the table for mobile devices to receive the Internet from broadcast stations. Now, recent 3GPP standards updates enable the technology for 5G Broadcast Internet to be introduced and deployed while coexisting in the same channel with other legacy TV technologies, such as ATSC 3.0. Moreover, because the 3GPP standards are worldwide, the technical capabilities will be engineered and built into handsets going forward and within a few years nearly every cell phone in America will be able to receive Broadcast Internet service without any added applications or modifications from their CMRS carrier. Castanet and other broadcasters will readily be able to provide the signals and new services that will benefit consumers in a number of ways.[3]

Transmissions belonging to both technologies, ATSC 3.0 and 5G Broadcast, are multiplexed by Castanet in a manner that is backwards-compatible with legacy TV receivers. By proper joint signal generation, decoding the ATSC 3.0 signal can be achieved by legacy TV receivers, unaware of the presence of the 5G Broadcast waveform, while the 5G Broadcast waveform can be decoded by the corresponding devices, unaware of the ATSC 3.0 system as well.

---

[1] And amended the wording of 47 USC § 73.624(b) to define the precise resolution that is considered to be "at least comparable in resolution to analog television programming" as 480i, with a slight modification. *In the Matter of Promoting Broadcast Internet Innovation through ATSC 3.0*, FCC 20-181, MB Dkt. No. 20-145, App. A (Dec. 10, 2020)("Broadcast Internet Order"). The broadcaster must also remit a fee of 5% on the gross revenues generated from the ancillary services. *Id.*

[2] *See, e.g.,* 47 CFR § 73.624(c).

[3] One of these will be GPS augmentation or "PNT," to be addressed in In the Matter of Promoting the Development of Positioning, Navigation, and Timing Technologies and Solutions, Notice of Inquiry, WT Docket No. 25-110. In the PNT docket Castanet expects to comment and provide additional background and detail on the nature of the services it plans to offer soon.

In this case the 6 MHz UHF TV channel consists of at least 1 MHz of ATSC 3.0 signal and up to 5 MHz of 5G Broadcast signal. The joint signal is constructed in such manner that existing ATSC 3.0 TV receivers can receive their corresponding program.

III. Possible Further Relaxation of Broadcast Rules to Enable New Services.

Castanet is not the only company to recognize the efficiencies and many other public interest benefits that can be achieved using 5G Broadcast Internet. Other companies are looking at similar, complementary models using technologies that are now available. One of those, HC2 Broadcasting Holdings Inc. ("HC2"), recently filed a petition for rulemaking to clarify and further relax broadcast regulations relating to Broadcast Internet.[4] HC2's petition asks that FCC authorize permissive use of 5G broadcast as a transmission standard for low power television stations, but with some clarification and relaxed conditions. Most salient would be to allow broadcasters to allocate the total UHF LPTV channel capacity (all 6 MHz) to the generation of a 5G Broadcast signal as indicated in 3GPP Ver. 18. In lieu of a free OTA 3.0 TV, under the HC2 model a broadcaster would instead transmit a free-to-air 5G broadcast TV program as part of the 5G broadcast signal, with the remaining bandwidth allocated to datacasting. No ATSC 3.0 signal would be generated or transmitted within the 6 MHz channel. This would enable consumers to watch a free channel on the mobile devices that will soon be on the market.

If the Commission opens a rulemaking pursuant to the HC2 petition, Castanet expects it will comment in full support. Although the proposed rule changes are not strictly necessary for Castanet's service model, the clarification and greater flexibility would definitely be beneficial to the public interest.[5] Many consumers, particularly young people, watch much more of their video

[4] Docket No. INBOX-1.401 (March 17, 2025).
[5] If deemed appropriate, the Commission may wish to address the HC2 issues in this docket, for sake of efficiency.

content on their mobile devices. By providing a free video channel that soon will be ubiquitously available, consumers will have a new competitive, and very efficient alternative to traditional OTA broadcasting. Today, video on mobile devices must be unicast, which is a very inefficient use of scare spectrum for the distribution of highly duplicated content. HC2's free channel would be multicast, creating tremendous cost savings for the content provider and consumer.

IV. Conclusion.

Castanet encourages clarification and relaxation of regulations and looks forward to commenting further in this and other dockets of interest.

Respectfully Submitted,
TECHNOLOGY & COMMUNICATIONS LAW, PLLC

/s/

Brooks E. Harlow
12703 Fox Woods Drive
Herndon, VA 20171
Bharlow@techcomm.law
+1 206-650-8206

Attorneys for Castanet 5G LLC